Claims 13-18, 27 and 30 have been rejected under 35 USC §102(b) as being anticipated by Jacobs (International Publication No. WO 98/46409). Claim 22 has been rejected under 35 USC §103(a) as being unpatentable over Jacobs in view of Schumann et al. (U.S. Patent No. 5,513,563), Claim 23 has been similarly rejected as being unpatentable over Jacobs in view of Agarwal et al. (U.S. Patent No. 6,407,171), Claim 28 has been similarly rejected as being unpatentable over Jacobs in view of Rieger (U.S. Patent No. 6,555,643) and Claim 29 has been similarly rejected as being unpatentable over Jacobs in view of Castagna (U.S. Patent No. 4,061,694). Reconsideration of these claims is respectfully requested.

Jacobs discloses on Page 10 beginning on line 13 the U.S. Patent No. 5,525,695 describes a manufacturing method for 'substantially linear polyethylenes', and characterises them as having a density from about 0.85 g/cm$^3$ to about 0.97 g/cm$^3$; a MI from 0.01 g/10min to 1000 g/10 min; and preferably a melt flow ratio of $I_{10}/I_2$ from about 7 to 20; and a molecular weight distribution $M_w/M_n$ preferably less than 5, especially less than 3.5 and most preferably from about 1.5 to 2.5

"[t]he law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims . . . [I]n such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." *In re Woodruff,* 919 F.2d at 1578, 16 USPQ at 1936 (1990).

Applying the law of *In re Woodruff* to the instant case, Jacobs does not disclose a process for the manufacture of flexible thin-walled articles of the type called for in Claim 13 that includes injection moulding a blend having at least one high melt flow compatible polymer having an MFI of greater than 100. The compatible polymer having an MFI of greater than 100 is a critical feature of the invention, and certainly not disclosed by Jacobs.

Further applying the law of *In re Woodruff,* the limitation of Claim 13 that the compatible polymer have an MFI of greater than 100 achieves unexpected results relative to the range disclosed in Jacobs. In this regard, it has been found that a blend having a compatible polymer having an MFI of greater than 100 confers significant advantages when compared with

corresponding blends which use a compatible polymer having an MFI of less than 100. Such advantages are mentioned in the application beginning on Page 25 at line 20. As discussed therein, the high melt flow compatible polymer frequently has the effect of increasing the shear sensitivity and overall MFI of the whole blend, thereby improving its flow properties. Also, because there is usually an inverse relationship between MFI and some physical properties of polymers, it is frequently found that polymer properties such as flex modulus and hardness decrease with increasing MFI. When it is desired, for example for reasons of cost ESCR effectiveness, etc., to use as a particular compatible polymer, but the low MFI grades of that polymer (i.e. polymers with MFIs less than or equal to 100) have a flex modulus that is too high relative to the desired application and which results in mouldings and that are too stiff, the substitution of a high MFI chemically similar or identical compatible polymer for all or part of the compatible polymer with an MFI of less than or equal to 100 in a blend enables the production and use of blends with much higher MFI than were previously attainable while at the same time reducing the adverse impact on properties such as `feel` and higher flex modulus that would normally be associated with lower MFI grades of the compatible polymer.

Without wishing to be bound by theory, it is believed that the benefits obtained form the use of at least one high melt flow compatible polymer are due primarily to their being more effectively dispersed in the at least one compatible polymer relative to lower MFI versions of the same compatible polymer and that they enable the formation of more and, smaller disperse phase particles sizes relative to that enable with low MFI versions of the same polymer. The smaller particle size of the disperse phase in turn results in an increase of the total surface area of a given weight percentage of the compatible polymer, thereby enabling a greater number of joints and areas of interaction between the polymer and the disperse phase (i.e. the compatible polymer) of the blend. The effect of reducing the particle size of a compatible polymer on the number of particles of the compatible polymer in the blend is illustrated by the fact that for a given weight percentage of a compatible polymer in a blend, halving the particle size (eg. by halving the particle radius) of the compatible polymer increases the number of compatible polymer particles by a factor of 8 and the total surface area of the compatible polymer by a factor of 2. Thus halving the radius of the particles of compatible polymer increases the number of stress-relieving

`joints` within the moulding by a factor of 8 and the surface area of the interface between the compatible polymer and the polymer by a factor of 2. Both these increases have the potential effect of improving moulding properties such as ESCR and tear strength.

Again without wishing to be bound by theory, it is believed that the increase in particle numbers and surface area of the compatible polymer of the discontinuous phase is one of the key reasons for many of the property improvements (eg, ESCR, tear strength) of the invention. The improvements in ESCR etc. resulting from the incorporation of high MFI compatible polymers open enables the percentage of compatible polymer in a blend to be reduced while still attaining an acceptable ESCR etc. This may be advantageous, for example where it is desirable to reduce the amount of a polypropylene compatible polymer in a blend in order to reduce the flex modulus of said blend. Alternatively, and using the same example, maintaining the weight percentage of the high melt flow compatible polypropylene results in significant increase in the number of disperse phase particles relative to a low MFI equivalent polypropylene which in turn increases the overall ESCR of the blend. This ESCR improvement in turn enables the use of higher MFI polymers, thereby increasing the blend's processing characteristics while maintaining acceptable ESCR performance.

It is submitted that the novel combination of Claim 13 provides an unexpected contribution when compared with the disclosure of Jacobs, which is of the same inventor as the present application and thus intimately known and understood.

Claims 14-18, 22-23 and 27-30 depend from Claim 13 and are patentable for the same reasons as Claim 13 and by reason of the additional limitations called for therein.

Claims 13-17 and 30 have been rejected on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over Claims 12-6 and 18 of U.S. Patent No. 6,547,094. A terminal disclaimer with respect to U.S. 6,547,094 is attached hereto, and is thus assumed to overcome the nonstatutory obviousness-type double patenting of Claims 13-17 and 30.

In view of the foregoing, it is respectfully submitted that the claims of record are allowable and that the application should be passed to issue. Should the Examiner believe that the application is not in a condition for allowance and that a telephone interview would help

further prosecution of this case, the Examiner is requested to contact the undersigned attorney at the phone number below.

Respectfully submitted,
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